

## **ECONOMICS OF OIL BEAN (*Pentaclethra macrophylla*), SEED MARKETING IN OWERRI AGRICULTURAL ZONE , IMO STATE**

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### **ABSTRACT**

*The study assessed the economics of oil bean marketing in Owerri agricultural zone of Imo state. Forty- five marketers oil bean marketers were randomly selected from three markets of the study area. Primary data were collected using structural questionnaire. Data collected were analysed using statistical tools such as mean, frequency and cost and return analysis. Results show that oil bean seeds marketing in the area are dominated by female marketers (90.44%). The marketers earned positive net returns of N3065 per 50kg and N410 per 20kg bag of oil bean seeds from marketing operations. Major constraints of oil bean seeds marketing include seasonal availability of oil bean seeds, high cost and lack of interest in seed gathering from the wild. To alleviate the problems, feeder roads and provisions of improved varieties are recommended.*

*Keywords: Oil bean, Marketers, Net returns, Agricultural Zone*

### **INTRODUCTION**

African oil bean (*Pentaclethra macrophylla*,) belongs to the family miniosaceae and the only specie of the genus pentaelethra macrophlla Keay *et. al.*, (1990). It is a tropical forest tree producing edible forest products (Emebiri, *et. al.* 1994). Oil bean is found growing in places like central Africa, Senegal, Angola and Nigeria. Like many other oil producing plants of African origin, virtually nothing is known about its conservation status or potential for genetic improvement. Past records of its distribution in the forest belt of Nigeria has only been suggestive (Dalziel,1967; Keay,1990; Okafor,1990) and little quantitative data has been published about it. Oil bean is a high forest tree confined to areas of tropical lowland, rainforest and in farmlands. The most useful part of the pentaelethra macrophylla are the seeds which is a delicacy among Igbos of South Eastern Nigeria.

The seeds of this plant which is the major means of its propagation, competes with its uses as food. The seeds are mainly composed of starch, protein and oil. As a source of food, it contains about 23.04% of fat and 24.4% of protein of the total dry matter (Okafor & okolo, 1985). *Pentaelethra Macrophylla* and some oil seeds are eaten after cooking with or without fermentation. Onwuchi (1998) further reported that chemical analysis carried over on oil bean seeds by the scientific and technical Department of imperial Institute, london, revealed that it contains iodine and oil of high melting points which can be used for soap making.

When it comes to trade, it is important to distinguish between the markets for seeds, oil and cake. The crucial role of organised market in agricultural development is no longer in dispute. FAO (1996), asserted that marketing is the crux of the whole food and agricultural problem. It would be useless to increase the output of food; it would equally be futile to set up optimum standards nutrition unless means could be found to move the food from the producer to the consumer at a price which represents a fair remuneration of the producer and within the consumer's ability to pay. A good marketing organisation directs production along the most suitable needs of the consumers (Abbot,1993). The market mechanism has to be efficient one to be able to play the role of propelling output. An efficient market therefore is one that provides satisfactory and cheap services to consumers or one that maximizes the ratio of input and output of marketing (Olayide,1998; Arene, 2003).

Oil bean seed has little attention both in marketing and distribution. This has led to the loss of income to oil bean seed gatherers, and traders; as a result, loss in profitability. Emebiri (1994), emphasized the fact that oil bean has not been deliberately planted, Okafor (1990) and Uzo (1990) stated that the plant remains grossly neglected in terms of research development and cultivation when compared with other oil producing plants. This study is expected to contribute empirical study on the oil bean seed marketing with special focus on its profitability.

### **Objectives of the study**

The broad objective of the study is to assess the Economics of Oil Bean Seed Marketing in Owerri Agricultural Zone. The specific objectives include:

- i. identify the socio-economic characteristics of oil bean seed marketers;
- ii. assess the marketing activities and channels of oil bean seed;
- iii. determine the marketing margin;
- iv. determine the marketing cost and returns;
- v. identify the cost constraint faced by the oil bean seed marketers; and
- vi. make recommendation based on the findings.

### **Methodology**

#### **Study Area**

The study was carried out in Owerri Agricultural Zone in Imo state. Owerri Agricultural zone lies within longitude 6° 48' and 5° 4'N and between latitude 6° 30' and 7° 22' (Ministry of Lands and Survey, 2004). It experiences two main season in a year. The dry season and raining season. The raining season starts in April and ends in October. The research was carried out in the state because the state is one of the states where oil bean is confined, marketed and consumed. Three markets in Owerri agricultural zone were used for the study. Out of these three markets, fifteen traders were randomly selected. A sample size of forty-five marketers were used for the study. Data were collected from primary sources. A structured questionnaire was used for data collection. Simple descriptive statistical tools were used to analyse objectives (i) and (ii) while objectives (iii) and (iv) were analysed using cost and return analysis.

## **Results and Discussion**

### **Socio-Economic Characteristics of Oil Bean Seed Marketers**

Table 1 shows that majority of the respondents, (53.7%), were aged 50 years and above; 31.7% were within the age brackets of 42-53 years while 14.6% were within 30-41 years.

**Table 1 : Frequency Distribution Of Respondents According to Age**

| Age (in years) | Frequency | Percentage(%) |
|----------------|-----------|---------------|
| 30-39          | 6         | 14.6          |
| 40 - 49        | 13        | 31.7          |
| 50 and above   | 22        | 53.7          |
| Total          | 41        | 100.00        |

Source: Field survey data, 2007.

### **Gender**

Gender composition is considered necessary in agricultural production because most farm operations are gender specific. Table 2 shows that 90.2% of the marketers were females while 9.81% were males. This indicates that both sexes are involved in the marketing process, but there are more females who participate in marketing of oil bean in the study area.

**Table 2: Frequency Distribution of Marketing based on Gender.**

| Gender | Frequency | Percentage (%) |
|--------|-----------|----------------|
| Female | 37        | 90.20          |
| Male   | 4         | 9.80           |
| Total  | 41        | 100.00         |

Source : Field survey data, 2007.

### **Marketing activities and channels of oil bean**

The activities involved in the marketing of oil bean seeds are, seed gathering from the wild, wholesaling, processing and retailing. The different activities are as shown in Figure 1. The simplified marketing channel in Figure 1 shows that the gatherers from the wild sell to primary wholesalers who in turn sell to processors. After processing into readily edible form, the commodity is sold to wholesalers, retailers and eventually to consumers. It should be pointed out that in most cases, the retailers and wholesalers perform the processing function.

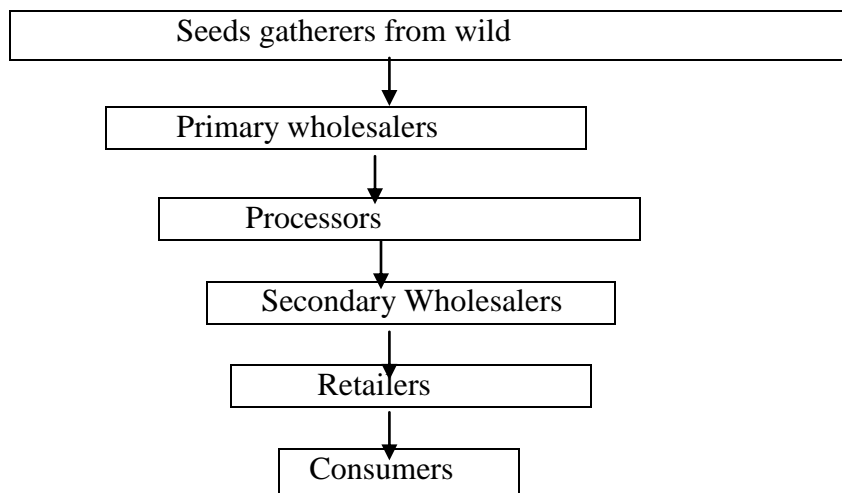


Figure 1: Marketing Channel for oil Bean Seeds  
 Source : Field survey data, 2007

### Marketing Margin of Oil Bean Seed

Table 3 indicated that marketing cost were estimated to be N1,450 for 50kg bag and N800 for 20kg bag. While a net margin of N3915 was obtained from 50kg bag and N960 for 20kg bag. The net margin of 50kg bag is reasonably good while that of 20kg is small, because the more the quantity the more the net margin.

**Table 3: Marketing Margin for Oil Bean Seeds in Owerri Agricultural Zone Markets**

| Item                | 50kg bag(N) | 20kg bag (N) |
|---------------------|-------------|--------------|
| Marketing cost      |             |              |
| Transportation      | 550.00      | 300.00       |
| Storage             | 300.00      | 100.00       |
| Labour/Processing   | 600.00      | 400.00       |
| Total variable cost | 1450.00     | 800.00       |
| Marketing margin    |             |              |
| Purchase price      | 12,000.00   | 2,400.00     |
| Sales Price         | 17,365.00   | 4,160.00     |
| Gross Margin        | 5,365.00    | 1,760.00     |
| Net Margin          | 3,915.00    | 960.00       |

Source: Field survey data,2007.

### Cost and Returns Analysis of Oil Bean Seed Marketing

From the results in Table 4, it shows that about 89.2% of the total variable costs of marketing 50kg bag is the cost of oil bean seed and other variable costs of 10.8% while rent constitute

70.6% of the total fixed cost and depreciation of equipment 29.4%. While in Marketing 20kg bag of oil bean seed, 72.7% constitute the cost of oil bean seed, 27.3% are other variable costs. Also from the fixed cost of 54.5% constitute rent and 45.5% constitute the depreciation cost. Net benefit for marketing 50kg bag is N3065 and 20kg bag is N410.

**Table 4: Cost and Returns Analysis for Oil Bean Seed Marketing Operations**

| Item                  | 50kg bag (N) | 20kg bag (N) |
|-----------------------|--------------|--------------|
| Total Revenue         | 17,365.00    | 4160.00      |
| <b>Variable Cost</b>  |              |              |
| Transportation        | 550.00       | 300.00       |
| Storage cost          | 300.00       | 100.00       |
| Labour                | 600.00       | 400.00       |
| Cost of oil bean seed | 12,000.00    | 2400.00      |
| Total variable cost   | 13,450.00    | 3200.00      |
| <b>Fixed Cost</b>     |              |              |
| Rented Space          | 600.00       | 300.00       |
| Depreciation          | 250.00       | 250.00       |
| Total fixed cost      | 850.00       | 550.00       |
| TotalCost (TFC+TVC)   | 14,300.00    | 3750.00      |
| Gross Revenue         | 3,915.00     | 960.00       |
| Net Revenue           | 3 065.00     | 410.00       |

Source: Field survey data, 2007.

#### **Constraints Encountered in Marketing Oil Bean**

From the survey, the major constraints faced by the respondents are that of seasonal availability, high cost of seed and lack of interest in seed gathering. Other constraints are high transportation, and deforestation of oil bean trees.

**Table 5:Frequency Distribution of Respondents According to Constraints Encountered in Oil Bean Marketing**

| Description of Constraints         | Frequency | Percentage |
|------------------------------------|-----------|------------|
| High cost of oil bean seeds        | 10        | 24.39      |
| High transportation cost           | 3         | 7.31       |
| Seasonal availability of seeds     | 15        | 36.58      |
| Destruction of trees for charcoal  | 3         | 7.31       |
| Lack of interest in seed gathering | 10        | 24.39      |
| Total                              | 41        | 100        |

Source: Field survey data, 2007.

### **Conclusion and Recommendation**

Marketing of oil bean seeds is profitable. However, the net returns are low due to low volume of the business. The major constraints to efficient marketing is seasonal availability, lack of interest in seed gathering and high cost of seeds. The constraints affect the volume of the business which in turn reduce the profit margin. For increased profit margin and ready availability of the oil bean seeds, households in the rural areas should be encouraged to plant oil bean trees at homestead as economic tree.

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